approved 03/30/07

AMENDMENTS TO THE SPECIFICATION

Please amend the paragraph starting on these lines in the substitute specification as follows:

Page 1, line 15:

More particularly, considering a calorimeter, the housing is placed in a thermally controlled environment, so as to maintain a reagent contained inside the housing at a desired temperature. This reagent is maintained in an agitated state, through the use of an agitation organ or by imparting a movement to the housing itself. The means for maintaining ~~at~~ a desired temperature ~~are~~ comprise, for example, ~~obtained by means of an envelope~~ a jacket surrounding the housing for the circulation of a thermostatted heat-exchanging fluid.

Page 2, line 1:

A first known technique ~~consists in~~ comprises measuring internal and external temperatures of the housing by means of thermometers. The power of the thermal reaction takes into account the difference between the two measured temperatures, the exchange area and the heat exchange coefficient between the reagent and the wall of the housing. According to this technique, the exchange area is estimated approximately and the heat exchange coefficient is determined beforehand through calibration by plunging a heating electric resistance in the reagent. One may refer, for example, to U.S. Patent No. 5,174,655 to Wilfried Litz et al.

Page 2, line 14:

A second drawback resides in the inadequate use of a means for heating the reagent before its agitation, with, either undesirable consequences on the physical-chemical characteristics of the reagent before the reaction under study, ~~either~~ or the preliminary step of determining the coefficient by a specific calibration procedure.

Page 2, line 18:

A second known technique ~~consists in~~ comprises using a ~~heating~~ resistance heating placed in the heat-transfer fluid circulating between the housing and its ~~envelope~~ jacket. When the reaction under study is exothermic, the ~~heating~~ resistance heating produces less heat to maintain the reagent temperature constant. The power of the reaction is then estimated from the corresponding power reduction of the ~~heating~~ resistance heating. One may refer, for example, to U.S. Patent No. 4,130,016 to Lynn C. Walker.

Page 3, line 5:

A third technique ~~consists in~~ comprises proceeding to a thermal balance in the circulation zone of the heat-transfer fluid. To this effect, for example, a condenser is used in which the heat-transfer fluid condenses after heating. The measurement of the amount of fluid condensed makes it possible to determine the power of the thermal reaction. One may refer, for example, to European Patent EP 0275042 (Westinghouse Electric Corporation).

Page 3, line 21:

In a general manner, the inventive thought process of the present invention has ~~consisted in~~ comprised proposing a method and its device for carrying it out to determine in a precise and reliable manner, in real time and continuously, the exchange area between the reagent and the housing, so as to finally make it possible to analyze in the same conditions the characteristics of the housing and of the thermal reaction under study.

Page 4, line 3:

This thought process has more particularly ~~consisted in~~ comprised abandoning the habits used in the field, and in using heat flux sensors to determine in a precise, reliable manner, continuously and in real time, the exchange area between the reagent and the housing.

Page 4, line 13:

Thanks to such an unusual exploitation of the heat flux sensors, such as thermopiles providing logical data in ~~tension~~ voltage, it is made possible to obtain reliable measurements of heat flux through the wall of the housing, which makes it possible to calculate in a precise manner, continuously and in real time, with the use of automated digital computing means, firstly, the level of reagent inside the housing, secondly, the exchange area between the reagent and the wall of the housing, then the thermal power transmitted by the housing, and the heat exchange coefficient between the reagent and the wall of the housing, and lastly, the power and energy of the thermal

reaction.

Page 5, line 9:

Particular applications of the implementation of the method of the invention ~~consist~~ comprise in particular ~~in~~ measuring the spontaneous variation of the actual level h of a reagent contained in a housing, in particular a security threshold, following natural variations or variations triggered by the environment outside this housing, such as a storage tank of a delicate product, or also the dilatometry of the material.

Page 5, line 18:

According to a first aspect of the invention, the method proposed ~~consists in~~ comprises measuring a first heat flux F_1 per surface unit selected in a zone of the wall in secure contact with the reagent, measuring a second heat flux F_2 per surface unit selected in a zone of the wall in secure absence of contact with the reagent, measuring a third heat flux F_3 per surface unit selected in a zone of the wall comprising in a continuous overlapping manner both ~~any~~ a zone of the wall in secure contact with the reagent next to ~~any~~ a zone of the wall in secure absence of contact with the reagent, and then calculating the actual level h of the reagent inside the housing, based on proportions of the measurements of the first, second, and third heat flux which have been carried ~~out,~~ out.

Page 6, line 12:

These dispositions are such that the power ~~Pt~~ P_t transmitted by the housing can be calculated continuously and in real time, with a precision and a reliability preferentially ~~obtained~~ derived from those of the exchange area A, starting from the measurement of the first heat flux F_1 per surface unit, scaled to the totality of the exchange area A between the reagent A and the wall of the housing.

Page 7, line 19:

Starting from the reliable data collected by the method of the invention, the power P_r of the reaction is determined by measuring the evolution of the reagent temperature during the time of the reaction, by determining the power P_t transmitted by the housing, and by estimating the thermal losses of the housing. These thermal losses, commonly referred to as "heat ~~lossesthrough~~ losses through the reactor head assembly", are elements known to the person of the art.

Page 11, line 1:

- a calorimeter, comprising a housing 2, a jacket 3 ~~disposed~~ arranged around this housing 2 for the circulation of a fluid 17, and means 18 for producing heat in the fluid 17 to maintain the reagent at a desired temperature,

Page 11, line 11:

- a third band-shaped sensor 6, placed in contact with and along a generatrix of the external

face of the wall of the housing 2, so as to ~~straddle~~ cover continuously zones of this housing in correspondence with zones of the internal face of the wall of the housing 2 respectively in contact and in absence of contact with the reagent 1.